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Solid Earth Discussions

Interactive comment on "Organic carbon stocks in Mediterranean soil types under different land uses (Southern Spain)" *by* M. Muñoz-Rojas et al.

Anonymous Referee #2

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The study represents an important contribution to the knowledge about the carbon content in soils of Mediterranean ecosystems, and is especially interesting the comparison between the different soil types and land uses. This allows them to get very interesting statistical relationships based on a large number of observations.

The chapter "limitations to the methodology" is very appropriate because it shows the complexity of these studies. References to the spatial variability of carbon and the many environmental parameters that regulate it and may be involved in different processes of soil degradation are very interesting.

In my opinion the paper should be published, but after reviewing the following list:

ïČij Chapter 2.1. line 2-3, page 1100: the order of soil groups can meet some criteria:

alphabetical representation of evolution or in the study area (for example ,see results). ïČij Chapter 2.3. line 4 page 1103"... 10 soil classes ..." but cited only 8 kinds of soils. ïČij Chapter 2.3. line 5 page 1103 line 5: You must write "Arenosols" with "arenosols" and FAO-UNESCO (1974) does not provide for soil group "Calcisols" so it should not be quoted. ïČij Chapter 3.1 line 6 page 1105: the data shown in the 25-50 cm layers correspond to Calcisols but not Vertisols. Line 8 page 1105: change 15.8 Mg C ha-1 by 15.9 (see table 2) Line 10 page 1105. change 3.74% by 3.79 (see table 2). ïČij Chapter 3.3. line 8 page 1106 "...with summer temperature..." or "winter temperature" ? (see table 3). Line 9 page 1106 "... correlated with winter temperature"... or "summer temperature"? (see table 3). ïČij Chapter 4.1 line 1 page 1108: to review bibliogrphic citation "Jordan by Batjes (2006)". Line 20 page 1109: data of Planosols is 4742.75 or 1916.20 ? (see table 1). ïČij In relation to table 2 is possible to homogenize the number of decimal places? (e.g. See line for Cambisols in total 25-50 cm: 12 to 12.0) and use separation line between Total Planosol and Regosol.

One issue for discussion:

What could be the cause of that type of use SOCS "forest" to be lower than the rest of the "natural vegetation" uses?. If "arable land", "Permanent crops" and "forest" occupy the similar areas why SOCS is lower in "forest"?

Interactive comment on Solid Earth Discuss., 4, 1095, 2012.